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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/220,970	12/23/1998	RANDELL L. MILLS	9213-4	5381
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EXAMINER				
CHEN, WENPENG				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/220,970

Applicant(s)

MILLS, RANDELL L.

Examiner

Wenpeng Chen

Art Unit

2624

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-322 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 118-126, 157-159, 266, 285-289 and 299-303 is/are allowed.
- 6) ☒ Claim(s) 51-117, 127-156, 160-265, 267-284, 290-298, 304-322 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Examiner's Remarks

1. In the decision of THE BOARD OF PATENT APPEALS AND INTERFERENCES of USPTO mailed on 11/28/2008 (hereafter referred as Board decision), the Board entered a new ground of rejection for independent claims 51, 118, 127, 156, 157, 160, 228, 237, 266, 267, 270, 271, 281, 285, 290, 294, 299, 304, 307, and 313 under 35 USC §101 pursuant to 37 C.F.R. § 41.50(b). The Applicant reopening prosecution before the examiner by filing amendments, in response to the new ground of rejection, on 1/28/2009. The Examiner's opinions are provided below.

2. In the Board decision, the Board expressed they understand how all the claimed subject matters are operational and can be implemented by following the description of the disclosure. Accordingly, they reversed the followings set forth in Office Action mailed on 12/21/2006:

- Claims 51-322 being rejected under 35 U.S.C. 112, first paragraph;
- Claims 51-322 being rejected under 35 U.S.C. 101 because they are non-operational and do not have utility.

Per the spirit of the decision, the Examiner withdraws the rejections and will not question the claims under similar ground.

3. This is to remind the Applicant that there are still pending objections set forth in Office Action mailed on 7/19/2001: (1) objection to drawings (paragraphs 3-4 in the Office

Action), (2) objection to specification (paragraph 5 in the Office Action), and objection to claims (paragraph 7 in the Office Action). Please refer to the Office Action for details.

Comments with regard to 35 USC § 101

3. Claims 118-126 are directed to statutory subject matter because the data are inputted to a computer, having a memory and a display, which is considered as a particular machine. At least the representing and forming steps inherently required the computer.

4. Claims 157-159 are directed to statutory subject matter because the generating step of Claim 157 is tied to a computer.

5. Claim 266 is directed to statutory subject matter because the data are transformed and displayed a display. The medium thus stores statutory subject matter.

6. Claims 285-289 are directed to statutory subject matter because the methods comprise a processor to perform the recited steps.

7. Claims 299-303 are directed to statutory subject matter because the data are transformed and displayed a display. The medium thus stores statutory subject matter.

Claim Rejections - 35 USC § 101

8. The following claims are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention in light of in light of Bilski.

The Federal Circuit¹, relying upon Supreme Court precedent², has indicated that a statutory “process” under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the “machine or transformation test”, whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See Benson, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See Flook, 437 U.S. at 590”). While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform an article nor are positively tied to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. (1. In re Bilski, 88 USPQ2d 1385 (Fed. Cir. 2008). 2. Diamond v. Diehr, 450 U.S. 175, 184 (1981); Parker v. Flook, 437 U.S. 584, 588 n.9 (1978); Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Cochrane v. Deener, 94 U.S. 780, 787-88 (1876).)

a. Claims 51-117 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In page 20 of the Board decision, the Board concluded that Claim 51 before the current amendment is not tied to a particular machine or apparatus. And, even if we assume that a machine is required to implement the process of claim 51 (i.e., the process is tied to a machine), the recited steps are not tied to a particular machine as Bilski requires. The Applicant amended Claim 51 to include (1) inputting said data into an electronic device and (2) outputting said

recognized pattern from the electronic device. The recited electronic device is **not a particular** machine or apparatus. With regard to the question of "transforming a particular article to a different state or thing", the Applicant amended Claim 51 to include data of physical item produced a transducer. Although a physical representation were recited in claim 51, the claim would still fail under the transformation test as this data would not be transformed into a different state or thing (e.g., a particular visual depiction of a physical object on a display as noted in *Bilski* or some other distinct transformation). Claim 51 recites transforming the data implicitly in the device. The steps do not actually transform transforming a particular article, which is associated with the physical item to a different state or thing. All the processed data inside the device does not transform the physical item into a different state or thing. The amended "outputting the recognized pattern from the electronic device" falls into the category of an insignificant post-solution activity step found to be insufficient to impart patentability explained in page 23 of the Board decision. Further, the "outputting" can be a process of storing the data into a memory. This is not an external depiction.

b. Claims 127-155 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 127 recites (1) a.) obtaining a string comprising a sum of Fourier series from a memory of a computer, ... and (2) aa.) storing the Fourier series in the intermediate memory in the high level memory of a computer. As discussed in pages 22-23 of the Board decision, these steps are of insignificant extra-solution activity. The claimed processing steps are not absolutely tied to a particular machine, because data can be read out from a memory of a computer,

processed without the computer, and stored back to a memory of the computer. Although a physical representation were recited in claim 127, the claim would still fail under the transformation test as this data would not be transformed into a different state or thing (e.g., a particular visual depiction of a physical object on a display as noted in *Bilski* or some other distinct transformation). The steps do not actually transform transforming a particular article, which is associated with the physical item to a different state or thing. All the processed data inside the device does not transform the physical item into a different state or thing. This is not an external depiction.

c. Claims 271-280 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 271 as amended do not require absolutely a machine to perform any recited steps. They fail the particular machine test. Furthermore, the claims as recited do not provide external depiction of the transformed data. With regard to the question of "transforming a particular article to a different state or thing", the Applicant amended Claim 207 to include data of physical item produced a transducer. Although a physical representation were recited in claim 207, the claim would still fail under the transformation test as this data would not be transformed into a different state or thing (e.g., a particular visual depiction of a physical object on a display as noted in *Bilski* or some other distinct transformation). Claim 207 recites transforming the data implicitly in the device. The steps do not actually transform transforming a particular article, which is associated with the physical item to a different state or thing. All the processed data inside the device does not transform the physical item into a different state or thing. The

amended "storing said predominant configuration string in a computer memory, wherein the predominant configuration string allows a pattern in newly inputted information to be recognized" do not require absolutely an external depiction.

d. Claims 294-298 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 294 as amended do not require absolutely a machine to perform any recited steps. They fail the particular machine test. Furthermore, the claims as recited do not provide external depiction of the transformed data. With regard to the question of "transforming a particular article to a different state or thing", the Applicant amended Claim 207 to include data of physical item produced a transducer. Although a physical representation were recited in claim 294, the claim would still fail under the transformation test as this data would not be transformed into a different state or thing (e.g., a particular visual depiction of a physical object on a display as noted in *Bilski* or some other distinct transformation). Claim 294 recites transforming the data implicitly in the device. The steps do not actually transform transforming a particular article, which is associated with the physical item to a different state or thing. All the processed data inside the device does not transform the physical item into a different state or thing. The amendment only refers to data of physical items. There is no external depiction.

9. Claims 156 and 281-284 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 156 and 281 call for an apparatus and system, respectively for recognizing a pattern in information comprising data with various recited "layers", implemented as software, with particular functions associated with the recited functionality and a memory. Apart from this recited memory, however, the "apparatus" of these claims is not recited in terms of hardware or tangible structural elements. Although it is recited as an apparatus claim, the body of the claim only comprises software stored in a memory. The nominal recitation of a memory in these claims-like the shift register in Benson-does not transform this unpatentable abstraction into patentable subject matter under 35 U.S.C. 101.

10. Claims 160-227, 228-236, 237-265, 267-269, 270, 290-293, and 304-306 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Each of Claims 160, 270, and 304 recites a computer program product comprising a computer readable medium having a computer readable program code embodied therein. Claims 228, 237, 267, and 290 recite a computer readable medium storing a computer program code. However, as evidently explained above for other related claims, the recited steps related to the code do not pass the "machine or transformation test". Merely reciting a computer program product or a computer readable medium with instructions embedded on a computer readable medium to perform this method does not, in the Board's view (page 25 of the Board decision), transform the recited subject matter from an ineligible "abstract idea" to patentable subject matter. The Board sees no reason why implementing the otherwise ineligible method embedded in memory should be treated any differently from the methods found to be unpatentable noted above.

11. Claims 307-322 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Each of Claims 307 and 313 recites a data structure in a memory. The amendment of Claim 307 indicates that the data structure is created with a computer. However, the data structure does not require absolutely linked to a particular machine. The Board decided (page 22 of the Board decision) that Claim 307 do, however, recite that at least some aspects of the data are representative of physical characteristics. Nevertheless, for the reasons indicated in the Board decision, the Board still fails to see how this characterization, without more, renders these claims statutory over an otherwise unpatentable abstract idea for which the data structure does not have any functionality of "transforming a particular article to a different state or thing".

Claim Rejections - 35 USC § 112

12. Claims 156 and 270 are rejected under 35 U.S.C. 112, first paragraph.

Claims 156 and 270 are effectively "single means" claims. Each of them has only one hardware component, the recited memory with loaded software. A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of

the claim because the specification disclosed at most only those means known to the inventor.).
When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor. (MPEP 2164.08(a))

Allowable Subject Matter

13. Claims 118-126, 157-159, 266, 285-289, and 299-303 are allowed.

A statement of the reason of allowance was given in the previous Office Action.

Examiner's Comments with Regard to Prior Art

14. Claims 51-117, 227-156, 160-265, 267-284, 290-298, and 304-322 are not taught in the prior art.

A statement of the reason for the above conclusion was given in the previous Office Action.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is 571-272-7431. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 571-273-8300 for After Final communications. TC 2600's customer service number is 571-272-2600.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

/Wenpeng Chen/
Primary Examiner, Art Unit 2624

March 31, 2009